

REMARKS

In the February 7, 2008 Office Action, the specification and claim 7 were objected to, and claims 1, 4, 6, 9 stand rejected in view of prior art. Claims 1-5, 9 and 10 also were as being indefinite for failing particularly point out and distinctly claim the subject matter that Applicants regard as the invention. On the other hand, claims 2, 3, 5, 7, 8 and 10 were indicated as containing allowable subject matter. Applicants wish to thank the Examiner for this indication of allowable subject matter and the thorough examination of this application.

Status of Claims and Amendments

In response to the February 7, 2008 Office Action, Applicants have amended the specification and claims 1, 3-6 and 8-10 as indicated above. Also, claims 2 and 7 have been cancelled by the current amendment and Applicants have added new claims 11-14. Thus, claims 1, 3-6 and 8-14 are pending, with claims 1, 4-6, 9 and 10 being the only independent claims. Reexamination and reconsideration of the pending claims are respectfully requested in view of above amendments and the following comments.

Support for Amendments

The amendments to claims 1 and 6 are at least supported by the 11th and 12th paragraphs of page 10, and the 2nd paragraph of page 11. The amendments to claims 3 and 8 are at least supported by the 3rd and 4th paragraphs of page 10. The amendments to claims 4 and 9 are at least supported the 2nd paragraph of page 13. The amendments to claims 5 and 10 are at least supported the last paragraph of page 13. New claims 11-14 are at least supported by the 11th and 12th paragraphs of page 10, the 3rd paragraph of page 13.

Specification

In paragraphs 1-4 of the Office Action, the specification was objected to for informalities and corrections were suggested.

In response to the objection to lines 7-9 of page 13, Applicants have not amended the specification as suggested in the Office Action. Rather, Applicants respectfully traverse this objection. In particular, even if the DC voltage is the ideal DC voltage value of the AC power voltage (i.e., even if $DC\ voltage = 2^{1/2} \times AC\ power\ voltage$), the value of the DC voltage changes in correspondence with the changing of the AC power voltage. Further, a

motor driving method according to the present application changes the P-Q characteristics in correspondence with the changing of the power voltage, as described in the second through fourth paragraphs of page 11 of the instant application. In other words, Applicants believe the existing language of lines 7-9 of page 13 is clear and complies with 37 CFR §1.71 and 37 CFR §1.75(d)(1). Accordingly, withdrawal of this objection is respectfully requested.

With respect to the objection to lines 25-26 of page 4, Applicants have amended this paragraph as suggested in the Office Action. Accordingly, withdrawal of this objection is respectfully requested.

Claim Objections

In paragraph 5 of the Office Action, claim 7 was objected to for an informality. In response, Applicants have cancelled claim 7. Thus, this objection is now moot.

Claim Rejections - 35 U.S.C. §112

In paragraphs 7-19 of the Office Action, claims 1-5, 9 and 10 were rejected under 35 U.S.C. §112, second paragraph.

In particular, in claim 1, the phrase “driving a pump using the motor to change the discharge pressure – discharge flow characteristic in correspondence with a power voltage” was indicated as being indefinite because this phrase suggests an inherent ability of the motor to change pressure/flow characteristics with power voltage. Also, the Office Action indicates that it is unclear how the motor changes a P-Q characteristic, and suggest an additional method step. Finally, the Office Action suggested that the term “power voltage” be clarified using an alternate phrase such as “detected power source voltage.” In response, Applicants have deleted the objectionable language and/or clarify the objectionable language as suggested in the Office Action. In particular, independent claim 1 now recites that driving a motor based upon a command value ~~using a discharge pressure – discharge flow characteristic~~, carrying out feedback control of a discharge pressure, and driving a pump using the motor, ~~and to change the discharge pressure – discharge flow characteristic in correspondence with a power voltage~~ increasing the command value in correspondence with an increasing amount of a detected power source voltage when the detected power source voltage increases. Similar changes have been made to dependent claim 3 to be consistent

with amended independent claim 1. Based on the above, Applicants believe that claims 1 and 3 now comply with 35 U.S.C. §112, second paragraph. Accordingly, withdrawal of the rejections is respectfully requested.

With respect to claims 4, 5, 9 and 10, changes have been made to these claims similar to claim 1 to reference “a command value” and delete reference to “the discharge pressure – discharge flow characteristic” in a manner similar to claim 1. Also, these claims have been amended to clarify that the command value is changed/maintained, and under what conditions. Based on the above, Applicants believe that claims 4, 5, 9 and 10 now comply with 35 U.S.C. §112, second paragraph. Accordingly, withdrawal of the rejections of these claims is respectfully requested.

Rejections - 35 U.S.C. § 102

In paragraphs 21-24 of the Office Action, claims 1, 6 and 9 stand rejected under 35 U.S.C. §102(b) as being anticipated by International Application Publication No. 01/21959 (Horiuchi et al.). In response, Applicants have amended independent claims 1, 6 and 9 to more clearly define the present invention over the prior art of record.

Claim 1

In particular, independent claim 1 now requires driving a motor based upon a command value, carrying out feedback control of a discharge pressure, driving a pump using the motor, and increasing the command value in correspondence with an increasing amount of a detected power source voltage when the detected power source voltage increases. Clearly, this structure is ***not*** disclosed or suggested by Horiuchi et al.

In particular, Horiuchi et al. discloses an autonomous inverter driving a hydraulic unit having no need to have an instruction pressure and an instruction flow rate inputted thereinto from outside, eliminating the need for input signal line and being capable of autonomously controlling pressure and flow rate. Horiuchi et al. further disclose a target horsepower section (25) of a controller (11), which determines one of three regions (a, b, c) the present operating state belongs so as to calculate the target horsepower indicated by a point on a target pressure-flow rate characteristic line on the basis of present pressure and present flow rate. Thus, Horiuchi et al. inputs a control signal indicating any deviation into an inverter (3) in correspondence to deviation from a target pressure-flow rate characteristic line, ***not***

increasing the command value in correspondence with an increasing amount of a detected power source voltage when the detected power source voltage increases. In other words, Horiuchi et al. do not detect power source voltage whatsoever, and do not increase a command value in correspondence to a detected power source voltage when the detected power source voltage increases. Moreover, depending on the region (a,b,c) and the target pressure-flow rate characteristic line, it is unclear from Horiuchi et al. if the input signal increases or decreases when power source voltage increases since power source voltage is not detected whatsoever, and certainly cannot increase a command value *in correspondence* to increase in detected power source voltage since this value is not measured and since the target horsepower is compared to the target pressure-flow rate characteristic line depending on region (a,b,c).

It is well settled under U.S. patent law that for a reference to anticipate a claim, the reference must disclose each and every element of the claim within the reference. Therefore, Applicants respectfully submit that claim 1, as now amended, is not anticipated by the prior art of record. Accordingly, withdrawal of this rejection of claim 1 is respectfully requested.

Claim 6

Independent claim 6 now requires a motor configured to be driven based upon a command value to feedback control a discharge pressure, a pump operatively coupled to the motor, and a characteristic changing section configured to increase the command value in correspondence with an increasing amount of a detected power source voltage when the detected power source voltage increases. In other words, claim 6 requires a pump driving apparatus using a characteristic changing section that operates in a manner similar to the method set forth in claim 1, and thus, is not believed to be anticipated by Horiuchi et al., as explained above. In particular, Horiuchi et al. inputs a control signal indicating any deviation into an inverter (3) in correspondence to deviation from a target pressure-flow rate characteristic line, *not* a characteristic changing section configured to increase the command value in correspondence with an increasing amount of a detected power source voltage when the detected power source voltage increases. Accordingly, withdrawal of this rejection of claim 6 is respectfully requested.

Claim 9

Independent claim 9 now requires a motor configured to be driven based upon a command value to feedback control a discharge pressure, a pump operatively coupled to the motor, and judgment section configured to judge whether or not a detected DC voltage of an inverter for supplying a driving voltage to the motor is an ideal DC voltage value of an alternate current power voltage, configured to change the command value for the detected DC voltage upon judging that the detected DC voltage is the ideal DC voltage value of the alternate current power voltage, and configured to maintain the last changed said command value upon judging that the detected DC voltage is not the ideal DC voltage value of the alternate current power voltage. Clearly, this structure is *not* disclosed or suggested by Horiuchi et al.

In particular, as mentioned above, Horiuchi et al. do not detect DC voltage whatsoever. Moreover, Horiuchi et al. only compare a target horsepower to an actual horsepower to determine an input signal corresponding to a deviation from a target pressure-flow rate characteristic line depending on a region (a,b,c). In other words, Horiuchi et al. do not disclose or suggest maintaining a prior command value, input value or deviation whatsoever and/or using such a maintained command value upon judging that the detected DC voltage is not the ideal DC voltage value of the alternate current power voltage. Accordingly, withdrawal of this rejection of claim 9 is respectfully requested.

Rejections - 35 U.S.C. § 103

In paragraphs 26-30 of the Office Action, claim 4 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Horiuchi et al. publication in view of U.S. Patent No. 4,893,067 (Bhagwat et al.). In response, Applicants have amended independent claim 4 to more clearly define the present invention over the prior art of record.

In particular, independent claim 4 now driving a motor based upon a command value, carrying out feedback control of a discharge pressure, driving a pump using the motor based on whether or not a detected DC voltage of an inverter for supplying a driving voltage to the motor is an ideal DC voltage value of an alternate current power voltage, changing the command value for the detected DC voltage upon judging that the detected DC voltage is the ideal DC voltage value of the alternate current power voltage, and maintaining the last changed command value upon judging that the detected DC voltage is not the ideal DC

voltage value of the alternate current power voltage. This arrangement is not disclosed or suggested by Horiuchi et al. and/or Bhagwat et al., whether taken alone or in combination.

Specifically, as mentioned above, Horiuchi et al. do not detect DC voltage whatsoever. Moreover, Horiuchi et al. only compare a target horsepower to an actual horsepower to determine an input signal corresponding to a deviation from a target pressure-flow rate characteristic line depending on a region (a,b,c). In other words, Horiuchi et al. do not disclose or suggest maintaining a prior command value, input value or deviation whatsoever and/or using such a maintained command value upon judging that the detected DC voltage is not the ideal DC voltage value of the alternate current power voltage. Bhagwat et al. do not account for the deficiencies of Horiuchi et al. In particular, Bhagwat et al. do not disclose or suggest *changing the command value for the detected DC voltage upon judging that the detected DC voltage is the ideal DC voltage value of the alternate current power voltage, and maintaining the last changed command value upon judging that the detected DC voltage is not the ideal DC voltage value of the alternate current power voltage.* In other words, since set rotation speed command does not change in correspondence to power voltage in these references, these references cannot suggest changing a command value based on detected DC voltage whatsoever. Accordingly, even of the torque speed curves of Bhagwat et al. were somehow incorporated in the device of Horiuchi et al., this hypothetical combination would not include the features of claim 9, as now amended (i.e. because neither reference discloses or suggests using command values as now claimed). Accordingly, withdrawal of this rejection of claim 4 is respectfully requested.

Allowable Subject Matter

In paragraphs 31 and 32 of the Office Action, claims 2, 3, 5, 7, 8 and 10 were indicated as containing allowable subject matter. Applicants wish to thank the Examiner for this indication of allowable subject matter and the thorough examination of this application. In response, Applicants have amended claims 5 and 10 to place them in independent form, and to overcome the indefiniteness rejections thereto. Thus, independent claims 5 and 10 are now believed to be allowable.

Prior Art Citation

In the Office Action, additional prior art references were made of record. Applicants believe that these references do not render the claimed invention obvious.

New Claims

Applicants have added new claims 11-14 by the current Amendment. New claims 11-14 depend from independent claims 1, 4, 6 and 9, respectively, and thus, are believed to be allowable for the reasons discussed above with respect to these independent claims. Moreover, new dependent claims 11-14 include additional limitations, which in combination with the features set forth in their respective independent claims, are believed to even further distinguish the prior art of record.

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In view of the foregoing amendment and comments, Applicants respectfully assert that claims 1, 3-6 and 8-14 are now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested.

Respectfully submitted,

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